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Patent

#8
9/25/02
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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re Patent Application of:

Rajugopal R. Gubbi

Application No: 09/293,492

Filed: April 15, 1999

For: PROTOCOL EXTENSION SCHEME FOR
WIRELESS COMPUTER NETWORKS

Examiner: Patel, A.

Art Unit: 2662

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Technology Center 2600

Commissioner for Patents
Washington, D.C. 20231

APPEAL BRIEF
IN SUPPORT OF APPELLANTS' APPEAL
TO THE BOARD OF PATENT APPEALS AND INTERFERENCES

Sir:

This Brief is submitted in triplicate in support of this appeal from a final decision of the Examiner, mailed July 26, 2001. Consideration of this appeal by the Board of Patent Appeals and Interferences for allowance of the above-captioned patent application is respectfully requested.

FIRST CLASS CERTIFICATE OF MAILING (37 C.F.R. § 1.8(a))

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REAL PARTY IN INTEREST

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The real party in interest is Sharewave, Inc., a corporation of California having a place of business at 5175 Hillsdale Circle, El Dorado Hills, CA.

II. RELATED APPEALS AND INTERFERENCES

Application Number 09/151,452, entitled "Hierarchical Computer Network Architecture" filed on September 11, 1998 is related. An appeal brief for 09/151,452 was submitted on October 20, 2001.

III. STATUS OF CLAIMS

Claims 1-13 are currently pending, have been finally rejected and are the subject of this appeal.

IV. STATUS OF AMENDMENTS

There are no currently pending amendments.

V. SUMMARY

A. Summary of the Invention

The present invention relates generally to a scheme for extending protocol capabilities within a network using specialized packet header information. The present scheme is generally applicable to a variety of wireless network environments but finds especially useful application in a computer network which is located in a home environment. See Specification at p. 2.

In the present invention, protocol extension bits are provided within the headers of packets transmitted within a computer network. The computer network server/client data packets have three main parts: a header, a payload and an error correction coding (ECC) block. The header may be a specified

length and may include a number of fields. For example, a packet type field (e.g. audio, video, voice, etc...) may be included. See Specification at p. 10

The invention provides a protocol extension field comprising the protocol extension bits introduced above. The protocol extension bits indicate changes of field values and/or lengths within the header. See Specification at p. 8

A client device may use the protocol extension field if a change in the basic format of the packet header is required. For example, upon logging on the network or even during a current session, the client may transmit a command packet that has the bits set to "00" in the protocol extension field. The client then requests a new packet header format from a network master device. Upon receiving the request at the network master device, the new packet header format requested is authenticated and the request is granted. In the packet headers with the new packet header format, the bits in the protocol extension field will be modified to indicate a change in the basic format of the packet header. In this example the protocol extension field bits were set to "11". In other examples, the bits in the protocol extension field may be set to "01" or "10". The bits set to the modified new value (e.g. "11") allow all relevant devices to know about the format in the new packet. Thus, upon receiving a packet with the bits set to "11" in the protocol extension field, a network device will be understand the packet format and will recognize that the packet header format previously provided by the sending network device has been altered. See Specification at pp. 11-12

Claim 1 is presented below with elements read on Figures of the drawings as required in MPEP 1206.

1. A packet header for use in information packets transmitted within a computer network comprising a protocol extension field that indicates changes of field values and/or lengths within the header.

As stated in MPEP 1206, the claims are not to be limited to this embodiment by such reading.

B. Summary of Rejections

Claims 1, 6-8 were rejected under 35 U.S.C. 102(b) as being anticipated by Yoshida et al., U.S. Patent No. 5,570,365 ("Yoshida '365")

Claims 2-5 and 9-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshida '365.

C. Summary of the References

Yoshida '365 provides a bridge for local area networks which is designed to reduce the delays low priority packets cause high priority packets. Yoshida '365 further describes packets which are made up of a MAC header 20, an IP header 21, and a TCP header 22. The total description of the various fields in these headers is provided at col. 2, ll. 26-50. All of the fields in each of the headers have a fixed size and/or fixed value (i.e., designating the type of information conveyed within that field).

VI. ISSUES

1. Whether claims 1-13 are patentable over Yoshida '365?

VII. GROUPING OF CLAIMS

For the purposes of this appeal, claims 1-13

VIII. ARGUMENT

A. Claims 1, 6, and 8 are patentable over Yoshida '365

With respect to claim 1, Yoshida '365 fails to disclose a protocol extension field included within a packet header to indicate changes in the packet header's fields.

Applicant's claim 1 discloses a protocol extension field included within a packet header for use in information packets transmitted within a computer network. The protocol extension field indicates changes of field values and/or lengths with the header.

The rejection of claim 1 under 35 U.S.C. 102(b) reflects a basic misunderstanding of the claim language and the header description taught by Yoshida '365. Yoshida '365 merely provides a bridge between local area networks which is designed to reduce the delays low priority packets cause high priority packets. The bridge in Yoshida '365 compares incoming packets from a first network destined for a second network against a list of packets requiring protection from interference. If a packet requires protection, then all other packets are prevented from being transferred to the second network for a designated period of time.

Yoshida '365 does not disclose a protocol extension field within a packet header for indicating changes of field values and/or lengths within the packet header. At best, Yoshida '365 describes packets which are made up of a MAC header 20, an IP header 21, and a TCP header 22. The total description of the various fields in these headers is provided at col. 2, ll. 26-50. With reference to Figure 2 of Yoshida '365, it appears that a packet header including a version field, a header-length field, a type field, a length field, and various other fields is provided. Nowhere does Yoshida '365 indicate or even suggest that these fields are anything but conventional in nature. For example, nowhere does Yoshida '365 suggest that any of these headers includes a field which may be used to indicate changes to field values and/or field lengths within the header. That is, all of the fields in each of the headers has a fixed size and/or fixed value (i.e., designating the type of information conveyed within that field), and the sizes and/or values of the headers do not change. Indeed, Yoshida '365 does not even teach changes to field lengths and/or field values of packet headers. There is nothing which suggests anything to the contrary.

Therefore, claim 1 is patentable under 35 U.S.C. §102(b) over Yoshida '365.

With respect to claim 6, Yoshida '365 fails to disclose a communication protocol to indicate whether or not field values and/or field lengths have been altered from a preestablished norm.

Applicant's claim 6 discloses a communication protocol for a computer network comprising packets having headers configured to include an indication of whether or not field values and/or lengths thereof have been altered from a preestablished norm.

Yoshida '365 does not teach a communication protocol to indicate changes to field lengths and/or values of packet headers. Indeed, Yoshida '365 does not even teach changes to field lengths and/or field values of packet headers. Therefore, claim 6 is patentable under 35 U.S.C. §102(b) over Yoshida '365. Because claim 6 is allowable, applicant respectfully submits that dependent claim 7 is also allowable.

With regards to claim 8, a method for indicating to components of a computer network that field lengths and/or field values of packet headers have been altered by using protocol extension bits included in the header is disclosed. Yoshida '365 does not teach protocol extension bits to indicate changes to field lengths and/or values of packet headers. Indeed, Yoshida '365 does not even teach changes to field lengths and/or field values of packet headers. For the reasons provided above, claim 8 is patentable over Yoshida '365 under 35 U.S.C. §102(b).

B. Claims 2-5 and 9-13 are patentable over Yoshida '365

Similar to claim 1, the rejection of claim 2 under 35 U.S.C. 103(a) reflects a basic misunderstanding of the claim language and the header description taught by Yoshida '365. As explained above, Yoshida '365 does not teach or suggest a protocol extension field.

In contrast, Applicant's claim 2 discloses a protocol extension field comprised of two bits and included within a packet header. Yoshida '365 does not teach or suggest a protocol extension field to indicate changes to field lengths and/or values of packet headers. Indeed, Yoshida '365 does not even teach or suggest changes to field lengths and/or field values of packet headers. Therefore, claim 2 is patentable under 35 U.S.C. §103(a) over Yoshida '365. Because Yoshida '365 does not disclose a protocol extension field as claimed, and given that claims 3-5 depend from claim 2, applicant submits that claims 3-5 are also patentable over Yoshida '365.

Yoshida '365 fails to teach or suggest claims 9-13 as they depend from claim 8. As explained, Yoshida '365 does not teach or suggest protocol extension bits to indicate changes to field lengths and/or values of packet headers. Also, as explained above, Yoshida '365 does not teach or suggest changes to field lengths and/or field values of packet headers. Therefore, claims 9-13 are patentable under 35 U.S.C. §103(a) over Yoshida '365.

For at least the above reasons, the present claims should be deemed allowable over the cited art of record.

IX. CONCLUSION

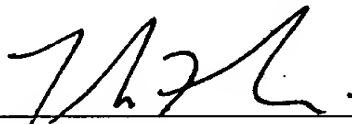
For the foregoing reasons, Appellants respectfully request reversal of the Examiner's rejections as set forth in the Final Office Action and request that the Board direct allowance of all of the claims. If there are any additional charges, please charge Deposit Account No. 02-2666.

Respectfully submitted,

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APPENDIX A
(37 C.F.R. § 1.192 (c)(9))

The claims on appeal read as follows:

- 1 1. A packet header for use in information packets transmitted within a computer network
2 comprising a protocol extension field that indicates changes of field values and/or
3 lengths within the header.
- 1 2. The packet header of claim 1 wherein the protocol extension field comprises two
2 bits.
- 1 3. The packet header of claim 2 wherein a value of 00 in the protocol extension
2 field indicates that the packet header is unaltered.
- 3 4. The packet header of claim 2 wherein a value of 01 or 10 in the protocol
4 extension field indicates a predetermined change in the content and/or length of
5 the header.
- 1 5. The packet header of claim 2 wherein a value of 11 in the protocol extension field
2 indicates dynamic negotiation of the field values and/or size.
- 1 6. A communication protocol for a computer network comprising packets having
2 headers configured to include an indication of whether or not field values and/or lengths
3 thereof have been altered from a preestablished norm.
- 1 7. The communication protocol of claim 6 wherein the headers include protocol
2 extension fields, the values of which may be used to indicate whether of not the field values
3 and/or lengths have been altered.

1 8. A method comprising indicating to components of a computer network whether
2 field lengths and/or values of packet headers associated with communication packets
3 transmitted between the components of the network have been altered using protocol
4 extension bits included within the headers.

1 9. The method of claim 8 wherein a value of 00 for the protocol extension bits
2 indicates that the packet headers have not been altered.

1 10. The method of claim 8 wherein a value of 01 or 10 for the protocol extension bits
2 indicates that a predetermined change in the content and/or length of the headers has been
3 made.

1 11. The method of claim 8 wherein a value of 11 for the protocol extension bits
2 indicates that a dynamic change in the content and/or length of the headers is being made.

1 12. The communication protocol of claim 7 wherein a value of 11 for the protocol
2 extension bits indicates that a dynamic change in the content and/or length of the header is
3 being made.

1 13. The communication protocol of claim 12 wherein different components of the
2 network may use protocol extension bits values of 11 for packet header structures unique to
3 the corresponding component.